

R E M A R K S

The Examiner rejected Claims 14, 16 and 19 under 35 U.S.C. §112, ¶4, and objected to those claims under Rule 75(c), for failing to further limit the claims upon which they depend. Accordingly, applicants have canceled those claims. Additionally, applicants have reviewed the remaining claims and have amended Claims 1, 15, 18 and 20 in order to remove any apparent redundancies, and to place the claims in better form.

No new matter has been added and the revisions in the claims which were effected by applicants do not necessitate further search and/or consideration on the part of the Examiner. It is therefore respectfully requested that the Examiner enter the revised version of the claims, and that the respective rejection and objection be withdrawn. Favorable action is solicited.

The Examiner rejected Claims 18 to 20 under 35 U.S.C. §112, ¶1, taking the position that the claims contained subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the pertinent art that the inventors were in possession of the invention at the time the application was filed. More specifically, the Examiner stated:<sup>2)</sup> *"No support can be found for 'firstly providing the contaminated ionic liquid .... non-polar organic solvent, subsequently'.* As such, the claims are considered to be drawn to new matter." Favorable reconsideration of the Examiner's position is respectfully solicited.

As stated by applicants:<sup>3)</sup> *"The present invention relates to an improved process for the purification or work-up of ionic liquids (ILs)."* It is further explained:<sup>4)</sup> *"Each of these uses leads either to dilution or contamination of the ionic liquid, so that it either has to be worked up or disposed of"* and that:<sup>5)</sup> *"Owing to these still relatively high material costs, it is desirable and essential for economics of a process for the ionic liquid to be able to be used for as long as possible and be able to be recycled. This is normally achieved by means of recycled streams in a process. Impurities, in*

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2) Office action page 2, lines 5 to 7.

3) Application page 1, indicated lines 3 and 4.

4) Application page 10, indicated lines 36 and 37.

5) Application page 11, indicated lines 1 to 8.

*particular high-boiling impurities, accumulate in these recycled streams. ... The contaminated ionic liquid which is discharged has a considerable value and efforts are made to recover it."*

Applicants further explain:<sup>6)</sup> *"The separation of low-boiling components from ionic liquids is usually relatively simple, since the ionic liquids have a nonmeasurable vapor pressure. The low-boiling components are separated off by simple evaporation or rectification."* Correspondingly, Claim 11 pertains to a process *"further comprising a step of removing low boiling compounds by evaporation."* As pointed out in the wording of Claim 1, applicants' purification process serves to remove contaminants *"which cannot be removed completely from the ionic liquid by way of distillation."* Additionally, Example 1 of the application describes a procedure in which a used and contaminated ionic liquid was freed of volatile components by evaporation on a rotary evaporator.<sup>7)</sup> The respective sections of applicants' disclosure therefore clearly support that applicants were in possession of the claimed invention at the pertinent time to the extent that the claimed purification procedure encompasses a step in which volatile components are removed by means of evaporation or rectification as set forth in subsection (a) of Claim 18.

The wording of subsection (b) of applicants' Claim 18 is supported by applicants' statement:<sup>8)</sup> *"Extraction is therefore suitable mainly for nonpolar high boilers which readily dissolve in non-polar (organic) solvents. These solvents are virtually immiscible with most ionic liquids and can therefore often be separated off relatively easily. However, it is possible that the interfering impurity cannot be washed out of the IL. This is observed especially in the case of polar high boilers."* The respective effect which is described in this section of the application is also illustrated in the comparative example.<sup>9)</sup> The respective explanations and showings in applicants' disclosure therefore clearly support that applicants were also in possession of the claimed invention at the pertinent time to the extent that the claimed purification procedure encompasses a step in which non-polar high boilers are removed by means of an extraction with a non-polar organic solvent as set forth in subsection (b) of Claim 18.

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6) Application page 11, indicated lines 10 to 12.

7) Application page 14, indicated lines 17 to 22.

8) Application page 11, indicated lines 28 to 32.

9) Application page 15, indicated lines 17 to 22.

It is therefore respectfully requested that the Examiner favorably reconsider his position and that the rejection of Claims 18 and 20 under Section 112, ¶1, be withdrawn. Favorable action is solicited.

The Examiner reiterated the position that Claims 1 to 4 and 6 to 17 were unpatentable under 35 U.S.C. §112, ¶2, as being indefinite arguing that *"the metes and bounds of "high-boiling compounds" cannot be determined"* remarking that the specification fails to indicate a temperature range regarding *"high boiling point."* As previously urged by applicants, the contaminant referenced in the claims is *"a polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation"* (emphasis added). In fact, the recitation of the emphasized wording in applicants' claim is, in light of the sections of the disclosure which are referenced in the foregoing, a pertinent part of the distinction between the impurities which may be present in a used ionic liquid, namely:

- a) low-boiling or volatile components which can be removed from the ionic liquids by simple evaporation or rectification,
- b) non-polar high boilers which readily dissolve in non-polar (organic) solvents and which can be removed by means of extraction, and
- c) those contaminants from which the ionic liquids are to be purified in accordance with applicants' process.

The metes and bounds of the *"polar, high boiling compound"* are accordingly given by applicants' definition that such compounds *"cannot be removed completely from the ionic liquids by way of a distillation"* which is recited in the claims. The Examiner's position that the reference to a *"polar, high-boiling compound"* renders the claims indefinite is, in light of the foregoing and the arguments already presented in applicants' papers dated January 24, 2006, April 27, 2006, and September 27, 2006,<sup>10)</sup> not deemed to be well taken and the respective rejection should therefore be traversed. Favorable action is respectfully solicited.

The Examiner further essentially reiterated the position taken in the previous Office action, namely

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10) The referenced papers are herewith incorporated by reference.

- I) that Claims 1 to 3, 8 to 11 and 13 were anticipated under Section 102(b), or were rendered obvious under Section 103(a), by the teaching of **Earle et al.** (US 2004/0015009), and extended the rejection to added Claims 14 to 20;<sup>11)</sup>
- II) that Claims 1 to 3, 8 to 11 and 13 were rendered obvious under Section 103(a) by the teaching of **Earle et al.** (ibid.) when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** (US 5,543,474) or the disclosure of **Thiem et al.** (US 4,751,291), and extended the rejection to added Claims 14 to 20;<sup>12)</sup>
- III) that Claims 2, 6, 7, 9 and 12 were rendered obvious under Section 103(a) by the combination of references as set forth in (II) when further taken in view of the disclosure of **Snyder (Introduction to Modern Liquid Chromatography)**, and extended the rejection to added Claims 18 to 20;<sup>13)</sup>
- IV) that Claim 4 was rendered obvious under Section 103(a) by the combination of references as set forth in (II) when further taken in view of the disclosure of **Gerhold** (US 4,402,832);<sup>14)</sup> and
- V) that Claim 11 was rendered obvious under Section 103(a) by the combination of references as set forth in (II) when further taken in view of the disclosure of **Wasserscheid (Ionic Liquids in Synthesis)**, and extended the rejection to added Claims 18 to 20.<sup>15)</sup>
- Additionally, the Examiner rejected Claims 18 to 20 under 35 U.S.C. §103(a) as being unpatentable in light of
- VI) the combination of references as set forth in (III) when further taken in view of the disclosure of **Mikes et al. (Laboratory Handbook of Chromatographic and Allied Methods, John Wiley Sons, New York 1979, pages 218-219, "Ion Exchange Chromatography")**; <sup>16)</sup> and
- VII) the combination of references as set forth in (V) when further taken in view of the disclosures of **Snyder (ibid.)** and **Mikes et al. (ibid.)**.<sup>17)</sup>

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11) Office action page 3.

12) Office action pages 3 and 4.

13) Office action pages 4 and 5 and pages 7 and 8.

14) Office action pages 6 and 7.

15) Office action pages 8 and 9.

16) Office action pages 5 and 6.

17) Office action pages 9 and 10.

As concerns issues (I) to (V) applicants respectfully reiterate the arguments and explanations presented in their papers dated January 24, 2006, April 27, 2006, and September 27, 2006.<sup>10)</sup> **Earle et al.** remove nitrotoluene and the oxidation product from the reaction mixtures by way of distillation. The products which are isolated in accordance with the teaching of **Earle et al.** are, therefore, not within the realm of the *"polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation"* referenced in applicants' claims. Accordingly, the teaching of **Earle et al.** does not show applicants' invention in the exactness which is necessary for a finding of anticipation under Section 102, i.e. the reference does not show a procedure in which a *"polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation"* is separated from an ionic liquid by means of absorptive separation.

**Earle et al.** merely generically state that the oxidation product and the ionic liquid may be separated by various means such as distillation, steam distillation, azeotropic distillation, sublimation, gravity separation, solvent extraction, crystallization, supercritical fluid extraction and chromatography.<sup>18)</sup> The reference contains nothing which suggests or implies that any amounts of the oxidation product remain in the ionic liquid after the separation by distillation. Moreover, and equally pertinently, the reference contains nothing whatsoever which suggests the possibility to separate any such remaining amounts of the oxidation product from the ionic liquid. According to **Earle et al.**'s teaching, the separation by distillation, steam distillation, azeotropic distillation, sublimation, gravity separation, solvent extraction, crystallization, supercritical fluid extraction and chromatography are equivalent. This means, that a person of ordinary skill in the art having the reference before him cannot expect to achieve a separation between the oxidation product and the ionic liquid beyond the success of the distillation by switching to one of the other mentioned methods.

The Examiner focused in his arguments on **Earle et al.**'s separation of nitrotoluene from the reaction mixture. In this regard, it should be borne in mind, however, that nitrotoluene is not the oxidation product which is addressed in paragraph [0008] on page 1 of the reference. Nitrotoluene is a by-product which is formed in the oxida-

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18) Cf. page 1, para. [0008], of *US 2004/0015009*.

tion reaction due to the fact that **Earle et al.** employ nitric acid or a nitrate in the illustrative examples. The separation means enumerated by **Earle et al.** in paragraph [0008] on page 1 of the reference are, therefore, not taught as means which are suitable to separate nitrotoluene and the ionic liquid. The same applies *mutatis mutandis* where the statements of **Earle et al.** in paragraph [0043] on page 3 of the reference are concerned. Here, the authors generically mention methods to separate the product and a combination of ionic liquid/acid promoter. The product is, again, the oxidation product sought in accordance with the teaching of **Earle et al.** and not, as the Examiner would have it, the by-product nitrotoluene. Again, the referenced separation methods are not taught or suggested to apply to the purification of an ionic liquid from nitrotoluene. Also, as noted above, **Earle et al.** remove nitrotoluene from the reaction mixture by way of distillation.

Moreover, the reference contains nothing which suggests or implies that any amounts of the nitrotoluene remain in the ionic liquid after the separation by distillation, and the reference contains nothing whatsoever which suggests the possibility to separate residual amounts of nitrotoluene -if any- from the ionic liquid. Assuming, arguendo, that residual amounts of nitrotoluene remain in the ionic liquid after distillation, and also that a person of ordinary skill would reasonably have relied on **Earle et al.**'s teaching regarding the separation of the product and the ionic acid, or the product and the ionic acid/promoter combination, as guidance for the purification of the ionic acid from any amounts of nitrotoluene which might have remained after the distillation, the teaching of **Earle et al.** remains to be unsuited to render applicants' invention obvious under Section 103(a). The reference enumerates the separation by distillation, steam distillation, azeotropic distillation, sublimation, gravity separation, solvent extraction, crystallization, supercritical fluid extraction and chromatography as being equivalent, and a person of ordinary skill in the art having the reference before him could, therefore, not expect to achieve a separation between nitrotoluene and the ionic liquid beyond the success of the distillation by switching to any one of the other mentioned methods.

It is therefore, and in light of applicants' previous arguments, respectfully requested that the rejections of Claims 1 to 3, 8 to 11

and 14 to 20 under Sections 102(b) and 103(a) be withdrawn. Favorable action is earnestly solicited.

The foregoing arguments and explanations also show why the teaching of **Earle et al.**, when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** or the disclosure of **Thiem et al.**, cannot be deemed to render the subject matter of applicants' Claims 1 to 3, 8 to 11 and 13 to 20 obvious within the meaning of Section 103(a).

The Examiner applied **Hackh's** Chemical Dictionary, and the disclosures of **Kawaki et al.** and of **Thiem et al.** to show that the nitrotoluene by-products which are encountered in the illustrative examples of **Earle et al.** are high boiling as well as polar. Applicants' claims require more than a compound which is high boiling and polar: Applicants' claims refer to "a polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation" (emphasis added). As explained in the foregoing:

- 1) The teaching of **Earle et al.** fails to provide any general methods which might be useful to separate the by-product and the ionic liquid; it is merely illustrated that the by-products are removed by way of distillation.
- 2) The teaching of **Earle et al.** does not address whether any residual amounts of the by-products remain in the ionic liquid after the distillation.
- 3) The teaching of **Earle et al.** does not suggest or imply methods which are useful to purify an ionic acid form by-products which cannot be removed from the ionic liquid by way of a distillation.

The fact that the by-products which are encountered in the illustrative examples of **Earle et al.** are high boiling as well as polar is, therefore, not sufficient to render applicants' process prima facie obvious within the meaning of Section 103(a). Favorable reconsideration of the Examiner's position and withdrawal of the respective rejection is therefore respectfully solicited.

The same applies, mutatis mutandis, where the Examiner rejected applicants' Claims 2, 6, 7, 9, 12 and 18 to 20 under Section 103(a) based on the teaching of **Earle et al.**, when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** or the

disclosure of *Thiem et al.*, and further taken in view of the disclosure of *Snyder*.

The Examiner applied the disclosure of *Snyder* for stating that ion exchange was the first of various liquid chromatography methods to be used widely under modern conditions, and took the position that a person of ordinary skill in the art would therefore have been motivated to employ ion exchange in the separation conducted in the procedure of *Earle et al.* This argument is, however, clearly based on hindsight. Again:

- 1) The teaching of *Earle et al.* fails to provide any general methods which might be useful to separate the by-product(s) and the ionic liquid; it is merely illustrated that certain by-products are removed by way of distillation.
- 2) The teaching of *Earle et al.* does not address whether any residual amounts of the by-product(s) remain in the ionic liquid after the distillation.
- 3) The teaching of *Earle et al.* does not suggest or imply methods which are useful to purify an ionic acid which are contaminated with any amounts of by-product(s) which might remain in the ionic liquid even after distillation, i.e. compounds which cannot be removed from the ionic liquid by way of a distillation.

The teaching of *Earle et al.* focuses solely on a separation of the product and the ionic liquid or the ionic liquid/acid promoter combination and is not concerned with the purification of the ionic liquid from any constituents which might remain in the ionic liquid after the product is separated. The mere fact that ion exchange was the first of various liquid chromatography methods to be used widely under modern conditions is, therefore, not sufficient to motivate a person of ordinary skill in the art to modify the procedure of *Earle et al.* as is necessary to arrive at applicants' process.

In light of the foregoing and the arguments previously presented by applicants it is therefore respectfully requested that the respective rejection of Claims 2, 6, 7, 9, 12 and 18 to 20 be withdrawn. Favorable action is earnestly solicited.

The foregoing arguments and explanations also show why the teaching of *Earle et al.*, when taken in view of *Hackh's* Chemical Dictionary and either the disclosure of *Kawaki et al.* or the disclosure of



*Thiem et al.*, and further in view of the disclosure of *Gerhold* cannot be deemed to render the subject matter of applicants' Claim 4 obvious within the meaning of Section 103(a).

Claim 4 specifies that the purification of the ionic liquid from contaminants which cannot be removed completely by way of distillation be carried out by means of a continuous chromatographic process, and the Examiner applied the disclosure of *Gerhold* for stating that a simulated moving bed is a very successful process for separating components from a liquid feed mixture. Notably, however, *Gerhold* points out that a pre-requisite for the success of the referenced separation is "*that in fact a separation is accomplished by the separating unit in question.*"<sup>19)</sup> *Earle et al.* fail to teach or suggest any generally applicable separation methods with a particular view to separate ionic liquids and by-products encountered in the oxidation procedure. The only information pertaining to this separation is found in the context of the illustrative examples where the nitro compounds are removed by way of distillation. Before this background, a person of ordinary skill in the art cannot reasonably expect that a separation of the by-product and the ionic acid is, in fact, accomplished in any of the separation units referenced by *Gerhold*. Additionally, it has to be borne in mind that applicants' process is specifically drawn to the purification of ionic liquids from contaminants "*which cannot be removed completely from the ionic liquids by way of a distillation.*" Nothing in the teaching of *Earle et al.* suggests or implies that any such contaminants remain in the ionic liquid after the by-product has been distilled off, and the primary reference also fails to suggest or imply methods which are suitable to accomplish a purification from any such remaining contaminants. The inclusion of the disclosure of *Gerhold* in the consideration of the prior art is, therefore, unsuited to direct a person of ordinary skill in the art to applicants' invention as defined in Claim 4. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and cannot be based on the applicant's disclosure.<sup>20)</sup> Here, however, neither the necessary suggestion nor the necessary expectation of success can be derived from the prior art relied upon by the Examiner. It is therefore respectfully requested

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19) Cf. col. 5, indicated lines 58 to 60, of *US 4,402,832*.

20) *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

that the respective rejection be withdrawn. Favorable action is earnestly solicited.

The Examiner's position that the subject matter of applicants' Claims 11 and 18 to 20 was unpatentable under Section 103(a) in light of the teaching of **Earle et al.** when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** or the disclosure of **Thiem et al.**, and further in view of the disclosure of **Wasserscheid**, is, for similar considerations, not deemed to be well taken. As noted in applicants' previous paper, the Examiner applied the disclosure of **Wasserscheid** solely for stating that any volatile compound can, in principle, be separated from an ionic liquid by distillation, and argued that a person of ordinary skill in the art would have, therefore, been motivated to remove low boiling compounds by evaporation as required in accordance with applicants' Claim 11 for the separations mentioned in the teaching of **Earle et al.** Claim 11 depends upon Claim 8 and incorporates the elements thereof by reference. Accordingly, Claim 11 not only requires that volatile components be removed by way of a distillation but also that polar, high-boiling compounds which cannot be removed by distillation be separated from the ionic liquid by adsorptive means. The disclosure of **Wasserscheid** does not add any information which closes or even narrows the gap between applicants' invention as defined in Claim 8 and the teaching of **Earle et al.** when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** or the disclosure of **Thiem et al.** The same provisions are recited in Claim 18 and incorporated in Claims 19 and 20 by reference. The foregoing therefore also applies where the subject matter of those claims is concerned. Accordingly, it is respectfully requested that the respective rejection of Claims 11 and 18 to 20 under Section 103(a) be withdrawn. Favorable action is solicited.

The Examiner noted in response to applicants' previous arguments that applicants' remarks "*urge that separation of a polar, high boiling compound is not shown.*" For sake of clarification it is respectfully submitted that the distinction between applicants' process and **Earle et al.** does not reside in the separation of a polar, high boiling compound from the ionic liquid. Rather, as emphasized in the foregoing, it is applicants' position that the reference fails to

disclose or even suggest the purification of an ionic liquid from a contaminating "polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation." The Examiner also urged that paragraph [0008] of the **Earle et al.** reference showed distillation and chromatography as interchangeable separation means. However, as emphasized in the foregoing, the paragraph in question addresses the separation of the oxidation product and the ionic liquid and not the separation of by-products from the ionic liquid. Additionally, as also noted above, if the methods are interchangeable as urged by the Examiner, then a person of ordinary skill in the art cannot reasonably expect to achieve a distinctly different separation result by switching from one method to another. In this regard, the Examiner's attention is respectfully drawn to applicants' showing in Example 1 on page 14 of the application. Accordingly, applicants' purification method is successful where distillation fails. Correspondingly, Example 1, taken together with Example 3 on page 15 of the application, shows that applicants' purification method is also successful where extraction fails.

The Examiner rejected Claims 18 to 20 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of **Earle et al.** when taken in view of **Hackh's** Chemical Dictionary and either the disclosure of **Kawaki et al.** or the disclosure of **Thiem et al.**, when further taken in view of the disclosure of **Snyder** and of the disclosure of **Mikes et al.** arguing "At best, the claims differ from ... in the clarity of reciting a resin."<sup>21</sup>) Applicants respectfully disagree. The process of Claim 18 inter alia comprises "providing the contaminated ionic liquid

- (a) by separating volatile components from a mixture comprising the ionic liquid, said volatile components and the impurities, by means of evaporation or rectification, and/or
- (b) by separating non-polar components from a mixture comprising the ionic liquid, said non-polar components and the impurities, by means of extraction with a non-polar organic solvent."

While the teaching of **Earle et al.** describes the separation of volatile components and ionic liquids by way of an evaporation or rectification, the reference is silent with regard to any means for puri-

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21) Office action page 5, line 18, to page 6, line 1; enumeration of applied references omitted.

ifying the ionic liquid from any impurities "*which cannot be removed completely from the ionic liquid by way of a distillation*" i.e. impurities which remain with the ionic liquid in spite of the evaporation or rectification. The teaching of **Earle et al.** also neither suggests nor implies the separation of non-polar components by way of extraction with a non-polar organic solvent. The disclosures of **Hackh's Dictionary**, **Kawaki et al.** or **Thiem et al.**, or the disclosure of **Snyder** fail to fill these gaps. The subject matter of applicants' Claims 18 to 20 is, therefore, further distinguished from the referenced art due to the particularities which are involved in providing the contaminated ionic liquid.

The Examiner applied the disclosure of **Mikes et al.** for stating that synthetic resins are of greatest importance for ion exchange chromatography. The statements can, however, not be deemed to suggest the particular measures which are taken in accordance with applicants' invention in order to, firstly, provide for a contaminated ionic liquid and, subsequently, to purify said contaminated ionic liquid to remove impurities "*which cannot be removed completely from the ionic liquid by way of a distillation.*" The Examiner's conclusion that the referenced art renders the subject matter of applicants' Claims 18 to 20 unpatentable under Section 103(a) is therefore deemed to be in error. Favorable reconsideration of the Examiner's position and withdrawal of the rejection is respectfully solicited.

Additionally, the Examiner rejected Claims 18 to 20 under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of **Earle et al.** when taken in view of **Hackh's Chemical Dictionary** and either the disclosure of **Kawaki et al.** or the disclosure of **Thiem et al.**, the disclosures of **Wasserscheid** and of **Snyder**, and further taken in view of the disclosure of **Mikes et al.** arguing "*At best, the claims differ from ... in reciting a resin.*"<sup>22)</sup> Again, applicants' respectfully draw the Examiner's attention to the measures which are, in accordance with applicants' Claim 18, required for providing the contaminated ionic liquid which is to be purified in accordance with applicants' process. As noted in the foregoing, the combination of the **Earle et al.**, **Hackh's**, **Kawaki et al.** or **Thiem et al.**, and **Snyder** references fails to suggest or imply these measures taken in accordance with applicants' invention, and the subject matter of appli-

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22) Office action page 9, lines 11 to 14; enumeration of applied references omitted.

cants' Claims 18 to 20 is further distinguished from these references in the particularities which are involved in providing the contaminated ionic liquid.

The disclosure of *Wasserscheid* merely adds that any volatile compound can, in principle, be separated from an ionic liquid by distillation. However, those principles are clearly not applicable where a *"a polar compound which cannot be removed completely from the ionic liquid by way of a distillation"* is of concern as an impurity. The disclosure of *Wasserscheid* can therefore also not be deemed to provide any information which is pertinent with regard to applicants' process.

The statement in the disclosure of *Mikes et al.* that synthetic resins are of greatest importance for ion exchange chromatography is equally unsuited to suggest the particular measures which are taken in accordance with applicants' invention in order to, firstly, provide for a contaminated ionic liquid and, subsequently, purifying said contaminated ionic liquid to remove impurities *"which cannot be removed completely from the ionic liquid by way of a distillation."* The Examiner's conclusion that the referenced art renders the subject matter of applicants' Claims 18 to 20 unpatentable under Section 103(a) is therefore, also, deemed to be in error. Favorable reconsideration of the Examiner's position and withdrawal of the rejection is respectfully solicited.